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|------|-----------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------------|-----|-----|-----|------|
| 1 | GTGACGCGATGGAGTGGTAGCCGAGGAGGAAGC | ATG | CTG | GCC | GTC | GGC | TGC | GGG | CTG | CTG | GCT | 63 | | | | | | | | | |
| 1 | | M | L | A | V | G | C | A | L | L | A | 10 | | | | | | | | | |
| 64 | GCC | CTG | CTG | GCC | GCG | CCG | GGA | GCG | GCG | CTG | GCC | CCA | AGG | CGC | TGC | CCT | GCG | CAG | GAG | GTG | 123 |
| 11 | A | L | L | A | A | P | G | A | A | L | A | P | R | R | C | P | A | Q | E | V | 30 |
| 124 | GCA | AGA | GGC | GTG | CTG | ACC | AGT | CTG | CCA | GGA | GAC | AGC | GTG | ACT | CTG | ACC | TGC | CCG | GGG | GTA | 183 |
| 31 | A | R | G | V | L | T | S | L | P | G | D | S | V | T | L | T | C | P | G | V | 50 |
| 184 | GAG | CCG | GAA | GAC | AAT | GCC | ACT | GTT | CAC | TGG | GTG | CTC | AGG | AAG | CCG | GCT | GCA | GGC | TCC | CAC | 243 |
| 51 | E | P | E | D | N | A | T | V | H | W | V | L | R | K | P | A | A | G | S | H | 70 |
| 244 | CCC | AGC | AGA | TGG | GCT | GGC | ATG | GGA | AGG | AGG | CTG | CTG | CTG | AGG | TCG | GTG | CAG | CTC | CAC | GAC | 303 |
| 71 | P | S | R | W | A | G | M | G | R | R | L | L | L | R | S | V | Q | L | H | D | 90 |
| 304 | TCT | GGA | AAC | TAT | TCA | TGC | TAC | CGG | GCC | GGC | CGC | CCA | GCT | GGG | ACT | GTG | CAC | TTG | CTG | GTG | 363 |
| 91 | S | G | N | Y | S | C | Y | R | A | G | R | P | A | G | T | V | H | L | L | V | 110 |
| 364 | GAT | GTT | CCC | CCC | GAG | GAG | CCC | CAG | CTC | TCC | TGC | TTC | CGG | AAG | AGC | CCC | CTC | AGC | AAT | GTT | 423 |
| 111 | D | V | P | P | E | E | P | Q | L | S | C | F | R | K | S | P | L | S | N | V | 130 |
| 424 | GTT | TGT | GAG | TGG | GGT | CCT | CGG | AGC | ACC | CCA | TCC | CTG | ACG | ACA | AAG | GCT | GTG | CTC | TTG | GTG | 483 |
| 131 | V | C | E | W | G | P | R | S | T | P | S | L | T | T | K | A | V | L | L | V | 150 |
| 484 | AGG | AAG | TTT | CAG | AAC | AGT | CCG | GCC | GAA | GAC | TTC | CAG | GAG | CCG | TGC | CAG | TAT | TCC | CAG | GAG | 543 |
| 151 | R | K | F | Q | N | S | P | A | E | D | F | Q | E | P | C | Q | Y | S | Q | E | 170 |
| 544 | TCC | CAG | AAG | TTC | TCC | TGC | CAG | TTA | GCA | GTC | CCG | GAG | GGA | GAC | AGC | TCT | TTC | TAC | ATA | GTG | 603 |
| 171 | S | Q | K | F | S | C | Q | L | A | V | P | E | G | D | S | S | F | Y | I | V | 190 |
| 604 | TCC | ATG | TGC | GTC | GCC | AGT | AGT | GTC | GGG | AGC | AAG | TTC | AGC | AAA | ACT | CAA | ACC | TTT | CAG | GGT | 663 |
| 191 | S | M | C | V | A | S | S | V | G | S | K | F | S | K | T | Q | T | F | Q | G | 210 |
| 664 | TGT | GGA | ATC | TTG | CAG | CCT | GAT | CCG | CCT | GCC | AAC | ATC | ACA | GTC | ACT | GCC | GTG | GCC | AGA | AAC | 723 |
| 211 | C | G | I | L | Q | P | D | P | P | A | N | I | T | V | T | A | V | A | R | N | 230 |
| 724 | CCC | CGC | TGG | CTC | AGT | GTC | ACC | TGG | CAA | GAC | CCC | CAC | TCC | TGG | AAC | TCA | TCT | TTC | TAC | AGA | 783 |
| 231 | P | R | W | L | S | V | T | W | Q | D | P | H | S | W | N | S | S | F | Y | R | 250 |
| 784 | CTA | CGG | TTT | GAG | CTC | AGA | TAT | CGG | GCT | GAA | CGG | TCA | AAG | ACA | TTC | ACA | ACA | TGG | ATG | GTC | 843 |
| 251 | L | R | F | E | L | R | Y | R | A | E | R | S | K | T | F | T | T | W | M | V | 270 |
| 844 | AAG | GAC | CTC | CAG | CAT | CAC | TGT | GTC | ATC | CAC | GAC | GCC | TGG | AGC | GGC | CTG | AGG | CAC | GTG | GTG | 903 |
| 271 | K | D | L | Q | H | H | C | V | I | H | D | A | W | S | G | L | R | H | V | V | 290 |
| 904 | CAG | CTT | CGT | GCC | CAG | GAG | GAG | TTC | GGG | CAA | GGC | GAG | TGG | AGC | GAG | TGG | AGC | CCG | GAG | GCC | 963 |
| 291 | Q | L | R | A | Q | E | E | F | G | Q | G | E | W | S | E | W | S | P | E | A | 310 |
| 964 | ATG | GGC | ACG | CCT | TGG | ACA | GAA | TCC | AGG | AGT | CCT | CCA | GCT | CGA | GGA | GGT | GGA | GGT | TCT | GGA | 1023 |
| 311 | M | G | T | P | W | T | E | S | R | S | P | P | A | R | G | G | G | G | S | G | 330 |
| 1024 | GGT | GGA | GGT | TCT | GGA | GGT | GGA | GGT | TCT | GTC | GAG | CCA | GTA | CCC | CCA | GGA | GAA | GAT | TCC | AAA | 1083 |
| 331 | G | G | G | S | G | G | G | G | S | V | E | P | V | P | P | G | E | D | S | K | 350 |
| 1084 | GAT | GTA | GCC | GCC | CCA | CAC | AGA | CAG | CCA | CTC | ACC | TCT | TCA | GAA | CGA | ATT | GAC | AAA | CAA | ATT | 1143 |
| 351 | D | V | A | A | P | H | R | Q | P | L | T | S | S | E | R | I | D | K | Q | I | 370 |
| 1144 | CGG | TAC | ATC | CTC | GAC | GGC | ATC | TCA | GCC | CTG | AGA | AAG | GAG | ACA | TGT | AAC | AAG | AGT | AAC | ATG | 1203 |
| 371 | R | Y | I | L | D | G | I | S | A | L | R | K | E | T | C | N | K | S | N | M | 390 |
| 1204 | TGT | GAA | AGC | AGC | AAA | GAG | GCA | CTG | GCA | GAA | AAC | AAC | CTG | AAC | CTT | CCA | AAG | ATG | GCT | GAA | 1263 |
| 391 | C | E | S | S | K | E | A | L | A | E | N | N | L | N | L | P | K | M | A | E | 410 |
| 1264 | AAA | GAT | GGA | TGC | TTC | CAA | TCT | GGA | TTC | AAT | GAG | GAG | ACT | TGC | CTG | GTG | AAA | ATC | ATC | ACT | 1323 |
| 411 | K | D | G | C | F | Q | S | G | F | N | E | E | T | C | L | V | K | I | I | T | 430 |
| 1324 | GGT | CTT | TTG | GAG | TTT | GAG | GTA | TAC | CTA | GAG | TAC | CTC | CAG | AAC | AGA | TTT | GAG | AGT | AGT | GAG | 1383 |
| 431 | G | L | L | E | F | E | V | Y | L | E | Y | L | Q | N | R | F | E | S | S | E | 450 |
| 1384 | GAA | CAA | GCC | AGA | GCT | GTG | CAG | ATG | AGT | ACA | AAA | GTC | CTG | ATC | CAG | TTC | CTG | CAG | AAA | AAG | 1443 |
| 451 | E | Q | A | R | A | V | Q | M | S | T | K | V | L | I | Q | F | L | Q | K | K | 470 |
| 1444 | GCA | AAG | AAT | CTA | GAT | GCA | ATA | ACC | ACC | CCT | GAC | CCA | ACC | ACA | AAT | GCC | AGC | CTG | CTG | ACG | 1503 |
| 471 | A | K | N | L | D | A | I | T | T | P | D | P | T | T | N | A | S | L | L | T | 490 |
| 1504 | AAG | CTG | CAG | GCA | CAG | AAC | CAG | TGG | CTG | CAG | GAC | ATG | ACA | ACT | CAT | CTC | ATT | CTG | CGC | AGC | 1563 |
| 491 | K | L | Q | A | Q | N | Q | W | L | Q | D | M | T | T | H | L | I | L | R | S | 510 |
| 1564 | TTT | AAG | GAG | TTC | CTG | CAG | TCC | AGC | CTG | AGG | GCT | CTT | CGG | CAA | ATG | TAG | CATGGGCACCGTCGAC | | | | 1627 |
| 511 | F | K | E | F | L | Q | S | S | L | R | A | L | R | Q | M | * | | | | | 525 |

[SEQ ID NO:1 and SEQ ID NO:2]

FIG. 1

REPLACEMENT SHEET

Appln. Filing Date: November 4, 1998

Title: CONJUGATE FOR MODIFYING INTERACTIONS BETWEEN PROTEINS

Inventor(s): Rose-John Stefan

Appln. No.: 09/142,471

Sheet 2 of 4

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|------|----------|-----|-----|-----|-----|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------|------|
| 1 | GTGAGCGC | ATG | GAG | TGG | TAG | CCGAGGAGGAAGC | ATG | CTG | GCC | GTC | GGC | TGC | GCG | CTG | CTG | GCT | 63 |
| 1 | | | | | | | | M | L | A | V | G | C | A | L | L | 10 |
| 64 | GCC | CTG | CTG | GCC | GCG | CCG | GGA | GCG | GCG | CTG | GCC | CCA | AGG | CGC | TGC | CCT | 123 |
| 11 | A | L | L | A | A | P | G | A | A | L | A | P | R | R | C | P | 30 |
| 124 | GCA | AGA | GGC | GTG | CTG | ACC | AGT | CTG | CCA | GGA | GAC | AGC | GTG | ACT | CTG | ACC | 183 |
| 31 | A | R | G | V | L | T | S | L | P | G | D | S | V | T | L | T | 50 |
| 184 | GAG | CCG | GAA | GAC | AAT | GCC | ACT | GTT | CAC | TGG | GTG | CTC | AGG | AAG | CCG | GCT | 243 |
| 51 | E | P | E | D | N | A | T | V | H | W | V | L | R | K | P | A | 70 |
| 244 | CCC | AGC | AGA | TGG | GCT | GGC | ATG | GGA | AGG | AGG | CTG | CTG | CTG | AGG | TGC | GTG | 303 |
| 71 | P | S | R | W | A | G | M | G | R | R | L | L | L | R | S | V | 90 |
| 304 | TCT | GGA | AAC | TAT | TCA | TGC | TAC | CGG | GCC | GGC | CGC | CCA | GCT | GGG | ACT | GTG | 363 |
| 91 | S | G | N | Y | S | C | Y | R | A | G | R | P | A | G | T | V | 110 |
| 364 | GAT | GTT | CCC | CCC | GAG | GAG | CCC | CAG | CTC | TCC | TGC | TTC | CGG | AAG | AGC | CCC | 423 |
| 111 | D | V | P | P | E | P | P | Q | L | S | C | F | R | K | S | P | 130 |
| 424 | GTT | TGT | GAG | TGG | GGT | CCT | CGG | AGC | ACC | CCA | TCC | CTG | ACG | ACA | AAG | GCT | 483 |
| 131 | V | C | E | W | G | P | R | S | T | P | S | L | T | T | K | A | 150 |
| 484 | AGG | AAG | TTT | CAG | AAC | AGT | CCG | GCC | GAA | GAC | TTC | CAG | GAG | CCG | TGC | CAG | 543 |
| 151 | R | K | F | Q | N | S | P | A | E | D | F | Q | E | P | C | Q | 170 |
| 544 | TCC | CAG | AAG | TTC | TCC | TGC | CAG | TTA | GCA | GTC | CCG | GAG | GGA | GAC | AGC | TCT | 603 |
| 171 | S | Q | K | F | S | C | Q | L | A | V | P | E | G | D | S | F | 190 |
| 604 | TCC | ATG | TGC | GTC | GCC | AGT | AGT | GTC | GGG | AGC | AAG | TTC | AGC | AAA | ACT | CAA | 663 |
| 191 | S | M | C | V | A | S | S | V | G | S | K | F | S | K | T | Q | 210 |
| 664 | TGT | GGA | ATC | TTG | CAG | CCT | GAT | CCG | CCT | GCC | AAC | ATC | ACA | GTC | ACT | GCC | 723 |
| 211 | C | G | I | L | Q | P | D | P | P | A | N | I | T | V | T | A | 230 |
| 724 | CCC | CGC | TGG | CTC | AGT | GTC | ACC | TGG | CAA | GAC | CCC | CAC | TCC | TGG | AAC | TCA | 783 |
| 231 | P | R | W | L | S | V | T | W | Q | S | H | P | R | N | S | S | 250 |
| 784 | CTA | CGG | TTT | GAG | CTC | AGA | TAT | CGG | GCT | GAA | CGG | TCA | AAG | ACA | TTC | ACA | 843 |
| 251 | L | R | F | E | L | R | Y | R | A | E | R | S | K | T | F | T | 270 |
| 844 | AAG | GAC | CTC | CAG | CAT | CAC | TGT | GTC | ATC | CAC | GAC | GCC | TGG | AGC | GGC | CTG | 903 |
| 271 | K | D | L | Q | H | H | C | V | I | H | D | A | W | S | G | L | 290 |
| 904 | CAG | CTT | CGT | GCC | CAG | GAG | GAG | TTC | GGG | CAA | GGC | GAG | TGG | AGC | GAG | TGG | 963 |
| 291 | Q | L | R | A | Q | E | E | F | Q | G | G | E | W | S | E | W | 310 |
| 964 | ATG | GGC | ACG | CCT | TGG | ACA | GAA | TCC | AGG | AGT | CCT | CCA | GCT | CGA | GGA | GGT | 1023 |
| 311 | M | G | T | P | W | T | E | S | R | S | P | P | A | R | G | G | 330 |
| 1024 | GGT | GGA | GGT | TCT | GTC | GAG | CCA | GTA | CCC | CCA | GGA | GAA | GAT | TCC | AAA | GAT | 1083 |
| 331 | G | G | G | S | V | E | P | V | P | P | G | E | D | S | K | D | 350 |
| 1084 | CAC | AGA | CAG | CCA | CTC | ACC | TCT | TCA | GAA | CGA | ATT | GAC | AAA | CAA | ATT | CGG | 1143 |
| 351 | H | R | Q | P | L | T | S | S | E | R | I | D | K | Q | I | Y | 370 |
| 1144 | GGC | ATC | TCA | GCC | CTG | AGA | AAG | GAG | ACA | TCT | AAC | AGT | AAC | ATG | TGT | GAA | 1203 |
| 371 | G | I | S | A | L | R | K | E | T | C | N | K | S | N | M | C | 390 |
| 1204 | GAG | GCA | CTG | GCA | GAA | AAC | AAC | CTG | AAC | CTT | CCA | AAG | ATG | GCT | GAA | AAA | 1263 |
| 391 | E | A | L | A | E | N | N | L | N | L | P | K | M | A | E | K | 410 |
| 1264 | CAA | TCT | GGA | TTC | AAT | GAG | GAG | ACT | TGC | CTG | GTG | AAA | ATC | ATC | ACT | GGT | 1323 |
| 411 | Q | S | G | F | N | E | E | T | C | L | V | K | I | I | T | G | 430 |
| 1324 | GAG | GTA | TAC | CTA | GAG | TAC | CTC | CAG | AAC | AGA | TTT | GAG | AGT | AGT | GAG | GAA | 1383 |
| 431 | E | V | Y | L | E | Y | L | Q | N | R | F | E | S | S | E | Q | 450 |
| 1384 | GTG | CAG | ATG | AGT | ACA | AAA | GTC | CTG | ATC | CAG | TTC | CTG | CAG | AAA | AAG | GCA | 1443 |
| 451 | V | Q | M | S | T | K | V | L | I | Q | F | L | Q | K | K | A | 470 |
| 1444 | GCA | ATA | ACC | ACC | CCT | GAC | CCA | ACC | ACA | AAT | GCC | AGC | CTG | CTG | ACG | AAG | 1503 |
| 471 | A | I | T | T | P | D | P | T | T | N | A | S | L | L | T | K | 490 |
| 1504 | AAC | CAG | TGG | CTG | CAG | GAC | ATG | ACA | ACT | CAT | CTC | ATT | CTG | CGC | AGC | TTT | 1563 |
| 491 | N | Q | W | L | Q | D | M | T | T | H | L | I | L | R | S | F | 510 |
| 1564 | CAG | TCC | AGC | CTG | AGG | GCT | CTT | CGG | CAA | ATG | TAG | C | ATG | GGC | ACC | CTC_GAG | 1612 |
| 511 | Q | S | S | L | R | A | L | R | Q | M | * | | | | | | 520 |

[SEQ ID NO:3 and SEQ ID NO:4]

FIG. 2

REPLACEMENT SHEET

Appl. Filing Date: November 4, 1998

Title: CONJUGATE FOR MODIFYING INTERACTIONS BETWEEN
PROTEINS

Inventor(s): Rose-John Stefan

Appl. No.: 09/142,471

Sheet 3 of 4

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Met Asn Ser Phe Ser Thr Ser Ala Phe Gly Pro Val Ala Phe Ser Leu
Gly Leu Leu Leu Val Leu Pro Ala Ala Phe Pro Ala Pro Val Pro Pro
1
Gly Glu Asp Ser Lys Asp Val Ala Ala Pro His Arg Gln Pro Leu Thr
5 10 15 20
Ser Ser Glu Arg Ile Asp Lys Gln Ile Arg Tyr Ile Leu Asp Gly Ile
25 30 35
Ser Ala Leu Arg Lys Glu Thr Cys Asn Lys Ser Asn Met Cys Glu Ser
40 45 50
Ser Pro Glu Ala Leu Ala Glu Asn Asn Leu Asn Leu Pro Lys Met Ala
55 60 65
Glu Lys Asp Gly Cys Phe Gln Ser Gly Phe Asn Glu Glu Thr Cys Leu
70 75 80
Val Lys Ile Ile Thr Gly Leu Leu Glu Phe Glu Val Tyr Leu Glu Tyr
85 90 95 100
Leu Gln Asn Arg Phe Glu Ser Ser Glu Glu Gln Ala Arg Ala Val Gln
105 110 115
Met Ser Thr Lys Val Leu Ile Gln Phe Leu Gln Lys Lys Ala Lys Asn
120 125 130
Leu Asp Ala Ile Thr Thr Pro Asp Pro Thr Thr Asn Ala Ser Leu Leu
135 140 145
Thr Lys Leu Gln Ala Gln Asn Gln Trp Leu Glu Asp Met Pro Thr His
150 155 160
Leu Ile Leu Arg Ser Leu Lys Glu Phe Leu Gln Arg Ser Leu Arg Ala
165 170 175 180
Leu Arg Gln Met
184

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[SEQ ID NO:5]

FIG. 3